MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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Miami, Florida 33175-2474
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www.miamidade.gov/economy

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

GAF
1 Campus Drive
Parsippany, NJ 07054

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: GAF Ruberoid® Modified Bitumen Roof System for Lightweight Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 14-0905.02 and consists of pages 1 through 33.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Material: APP/SBS
Deck Type: Lightweight Concrete
Maximum Design Pressure: -112.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
GAFGLAS® Ply 4	39.37" (1 meter) Wide	ASTM D2178	Type IV asphalt impregnated glass felt with asphalt coating.
Tri-Ply® Ply 4	39.37" (1 meter) Wide	ASTM D2178	Type IV asphalt impregnated glass felt with asphalt coating.
GAFGLAS® FlexPly™ 6	39.37" (1 meter) Wide	ASTM D2178	Type VI asphalt impregnated glass felt with asphalt coating.
GAFGLAS® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II, Asphalt impregnated and coated glass mat base sheet.
Tri-Ply® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II Asphalt impregnated and coated glass mat base sheet.
GAFGLAS® #80 Ultima™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II, Asphalt impregnated and coated, fiberglass base sheet.
GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating with factory perforations.
GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	A nailable, fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating.
GAFGLAS® Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.
Tri-Ply® Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.
GAFGLAS® EnergyCap™ BUR Mineral Surface Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules with factory applied EnergyCote™
Ruberoid® SBS Heat-Weld™ 25	39.37" (1 meter) Wide	ASTM D6163	SBS modified asphalt base sheet reinforce with a glass fiber mat.
Ruberoid® SBS Heat-Weld™ Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with polymer modified asphalt and smooth surfaced.
Ruberoid® SBS Heat-Weld™ Granule	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.

Product	Dimensions	Test Specification	Product Description
Ruberoid® SBS Heat-Weld™ 170 FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
Ruberoid® SBS Heat-Weld™ Plus	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® SBS Heat-Weld™ Plus FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote.
Ruberoid® Torch Smooth	39.37" (1 meter) Wide	ASTM D6222	Non-Woven Polyester mat coated with APP modified asphalt and smooth surfaced.
Tri-Ply® TP-4	39.37" (1 meter) Wide	ASTM D6222	Non-Woven Polyester mat coated with APP modified asphalt and smooth surfaced.
Ruberoid® Torch Granule	39.37" (1 meter) Wide	ASTM D6222	Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules.
Ruberoid® Torch 180	39.37" (1 meter) Wide	ASTM D6222	Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules.
Tri-Ply® TP-4G	39.37" (1 meter) Wide	ASTM D6222	Non-Woven Polyester mat coated with APP modified asphalt and surfaced with mineral granules.
Ruberoid® Torch FR	39.37" (1 meter) Wide	ASTM D6222	Non-Woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules.
Ruberoid® EnergyCap™ Torch Plus FR	39.37" (1 meter) Wide	ASTM D6222	APP modified cap membrane with a torch Grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™.
Ruberoid® EnergyCap™ Torch Granule FR	39.37" (1 meter) Wide	ASTM D6222	APP modified cap membrane with a torch Grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™.
Ruberoid® 20	39.37" (1 meter) Wide	ASTM D6163	SBS modified asphalt base sheet reinforce with a glass fiber mat.
Ruberoid® 30	39.37" (1 meter) Wide	ASTM D6163	Non-Woven fiberglass mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® 30 FR	39.37" (1 meter) Wide	ASTM D6163	Non-Woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D6164	Non-Woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.

Product	Dimensions	Test Specification	Product Description
Tri-Ply® SBS Modified Bitumen Membrane	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Intec Flex PRF	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Smooth 1.5	39.37" (1 meter) Wide	ASTM D6164	Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Plus Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-Woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Plus	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
Ruberoid® EnergyCap™ Mop FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven Polyester mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote™.
Ruberoid® Mop 170 FR	39.37" (1 meter) Wide	ASTM D6164	Non-Woven polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
Ruberoid® EnergyCap™ 30 FR SBS Membrane	39.37" (1 meter) Wide	ASTM D6163	Non-woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules and with factory applied EnergyCote™.
Matrix™ 102 SBS Membrane Adhesive	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive.
Topcoat® Elastomeric Roofing Membrane	1,5 or 55 gallons	ASTM D6083	An acrylic, water based elastomeric membrane system used to protect various types of roofing surfaces.
Topcoat® MB Plus	5 or 55 gallons	Proprietary	Water based, low VOC primer used to block asphalt bleed-through.
Topcoat® Surface Seal SB	5 gallons	ASTM D6083	Solvent based sprayable thermoplastic rubber sealant used to protect and restore aged roof surfaces and to increase a roof's reflectivity.
Matrix™ 307 Premium Asphalt Primer	3, 5, 55 gallons	ASTM D41	Asphalt concrete primer used to promote adhesion of asphalt in built-up roofing.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
EnergyGuard™ Polyiso Insulation,	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RH Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RN Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ Composite RA Polyiso Insulation	Polyisocyanurate foam insulation with high density fiberboard or perlite insulation.	GAF
EnergyGuard™ Perlite Roof Insulation	Perlite insulation board.	GAF
EnergyGuard™ Perlite Recover Board	Perlite insulation board.	GAF
DensDeck® Roof Board	Gypsum board	Georgia-Pacific Gypsum LLC
Securock® Gypsum-Fiber Roof Board	High Density Fire Resistant Insulation Boards	United States Gypsum Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Drill-Tec™ #12 Fastener	Insulation fastener and Base Ply	various	GAF
2.	Drill-Tec™ #14 Fastener	Insulation fastener and Base Ply	various	GAF
3.	Drill-Tec™ Base Sheet Fastener	Pre-assembled base sheet fastening assembly.	1.2 and 1.7 length	GAF
4.	Drill-Tec™ Base Sheet Fastener E	Pre-assembled base sheet fastening assembly.	1.2 and 1.7 length	GAF
5.	Drill-Tec™ AccuTrac® Flat Plate	Square Galvalume plates.	3"	GAF
6.	Drill-Tec™ AccuTrac® Recessed Plate	Square Galvalume plates.	3"	GAF
7.	Drill-Tec™ 3” Steel Plates	Square or Round Galvalume® coated steel plates	3"	GAF
8.	Drill-Tec™ CD-10	Insulation fastener and Base Ply fastener for concrete decks.	various	GAF
9.	Drill-Tec™ 2” Barbed Metal Plate	Base sheet fastener.	2"	GAF

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corp.	FMRC 4470	0D0A8.AM	07/09/97
	FMRC 4470	2B8A4.AM	07/02/97
	FMRC 4470	3005640	11/09/00
	FMRC 4470	3006845	10/17/00
	FMRC 4470	3005175	05/23/00
	FMRC 4470	3005177	05/19/00
	FMRC 4470	3007500	06/15/00
	FMRC 4470	3008178	12/27/00
	FMRC 4470	1B9A8.AM	09/04/97
	FMRC 4470	3D4Q2.AM	04/30/97
	FMRC 4470	3017250	04/05/04
	FMRC 4470	3041005	05/31/11
	FMRC 4470	3042887	11/14/11
	FMRC 4470	3014547	05/22/03
	FMRC 4470	3036980	08/14/09
	FMRC 4470	3029832	05/11/07
	FMRC 4470	3022508	07/20/05
Underwriters Laboratories, Inc.	UL 790	R1306	07/22/13
Independent Roof Testing & Consulting of South Florida	TAS 114-J	No.00001	03/30/00
	TAS 114-J	No.00002	03/30/00
	TAS 114	04-009	01/26/04
Exterior Research & Design, LLC	TAS 114	4483.04.97-1	06/06/97
Trinity | ERD	ASTM D6862	C8500SC.11.07	11/30/07
	ASTM D6222	G30250.02.10-2	02/11/10
	ASTM D3909	G30250.02.10-3-R2	06/03/15
	ASTM D6164	G31360.03.10	03/31/10
	ASTM D6164	G33470.01.11	01/13/11
	ASTM D6163	G34140.04.11-2	04/25/11
	ASTM D4601	G34140.04.11-4-R2	06/04/15
	ASTM D4879	G34140.04.11-5-R3	06/04/15
	ASTM D6222	G40620.07.12-2	07/17/12
	ASTM D6163	G40630.01.14-1	01/06/14
	ASTM D6164	G40630.01.14-2A	01/07/14
	ASTM D6164	G40630.01.14-2A-1-R1	04/10/14
	ASTM D6164	G40630.01.14-2B-R1	01/16/15
	ASTM D6164	G40630.01.14-2C	01/07/14
	ASTM D6164	G40630.03.14	03/06/14
	ASTM D6222	G43190.03.14-1	03/06/14
	ASTM D6222	G43190.03.14-2	03/06/14
	ASTM D6222	G43190.05.14-R1	05/20/14
	ASTM D6222	G43190.11.13-1	11/15/13
	ASTM D3909	G43610.01.14	01/22/14
	ASTM D3909	SC6870.08.14-R1	09/04/14
	ASTM D6163	G46160.02.15-2D	02/03/15
	ASTM D6163	G46160.03.15	03/11/15

EVIDENCE SUBMITTED: (CONTINUED)

Test Agency/Identifier	Name	Report	Date
Trinity | ERD	ASTM D6163	G46160.09.14-2A	09/09/14
	ASTM D6164	G46160.09.14-3A	09/09/14
	ASTM D6164	G46160.09.14-3B	09/09/14
	ASTM D6164	G46160.09.14-3C	09/09/14
	ASTM D6164	G46160.12.14-3E	12/29/14
	ASTM D6163	G6850.08.08	08/01/08
	ASTM D6164	G6850.08.08-R1	04/14/11
	ASTM D6222	G6850.10.08	10/06/08
	ASTM D6222	G6850.11.08	02/17/09
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-J	06-044	11/16/06
	TAS 114-J	06-048	12/21/06
	TAS 114-J	06-049	12/22/06
	TAS 114-J	12-015	04/24/12
PRI Construction Materials Technologies LLC.	ASTM D6083	GAF-084-02-01	05/07/06
	ASTM 1970	GAF-275-02-01	11/11/10
	ASTM D2178	GAF-314-02-01	08/23/11
	ASTM D2178	GAF-315-02-01	08/23/11
	ASTM D1970	GAF-344-02-01	04/23/12
	ASTM C1289	GAF-369-02-01	10/22/12
	ASTM C1289	GAF-464-02-01	02/06/14
	ASTM D6083	GAF-499-02-01	03/12/14
	ASTM D6083	GAF-500-02-01	03/12/14
Momentum Technologies, Inc.	ASTM D6162	AX04C9A	06/05/09
	ASTM D6083	EX14A3A	02/26/04
Florida Testing Engineering & Consulting Inc.	TAS 114-J	08-050187	04/28/08
	TAS 114-J	08-050186	10/14/08
	TAS 114-D	08-070080	10/30/08
	TAS 114-J	08-070122	10/30/08
	TAS 114-J	08-070127	10/14/08
	TAS 114-J	GL0809-02JR	10/30/08

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

Engineer/Agency	Identifier	Assemblies:	Date
FM Approval Deck Limitations	N/A	A(1), A(2), A(3), A(4), E(1), E(2), E(5)	01/01/13
Robert Nieminen, P.E.	Letter	E(3), E(4), E(6), E(7), E(8), E(9), F	10/05/15

APPROVED ASSEMBLIES

Membrane Type: APP/SBS

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type A(1): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.4" thick	**N/A**	**N/A**
EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RN Minimum 1½" thick	**N/A**	**N/A**
EnergyGuard™ RA Polyiso Insulation Minimum 1¾" thick	**N/A**	**N/A**
EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet:	One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15% see General Limitation #4. Or One ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.
Ply Sheet: (Optional)	**(Required over GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions. Or One or more plies Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane or Intec Flex PRF adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions. Or **(Only for use over Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)** GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-45 psf. (See General Limitation #7)

Membrane Type: SBS/SBS

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type A(2): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.4" thick	**N/A**	**N/A**
EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick	**N/A**	**N/A**
EnergyGuard™ RA Polyiso Insulation Minimum 1¾" thick	**N/A**	**N/A**
EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet:	One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. See General Limitation #4. Or GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.
Ply Sheet: (Optional)	**(Required over GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions. Or **(Only for use over Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)** GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-45 psf. (See General Limitation #7)

Membrane Type: APP/SBS

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type A(3): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation		
Minimum 1½" thick	**N/A**	**N/A**
EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board		
Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. or adhered in a strip or spot mopping of an approved asphalt; see General Limitation #4.
Or
GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional)	**(Required over GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions. Or **(Only for use over Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)** GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-75 psf. (See General Limitation #7)

Membrane Type: SBS/SBS

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type A(4): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® Mop Smooth or Ruberoid® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EnergyGuard™ Composite RA Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1½" thick	**N/A**	**N/A**
EnergyGuard™ Perlite Roof Insulation, DensDeck® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Base Sheet: One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15%; see General Limitation #4.
Or
GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional)	**(Required over GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions. Or **(Only for use over Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)** GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-75 psf. (See General Limitation #7)

Membrane Type: APP/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated, (See System Limitations)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft²/gal.

System Type E(1): Base sheet mechanically attached.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fastening Options: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf. See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf. See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf. See General Limitation #7)

Ply Sheet: One ply Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ (Optional) Smooth torch applied according to manufacturer's application instructions.

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.

2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: SBS/SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See System Limitation)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type E(2): Base sheet mechanically attached.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fastening Options: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf. See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf. See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf. See General Limitation #7)

Ply Sheet: (Optional) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® # 75 Base Sheet, Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Membrane:	One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	See Fastening Options Above

Membrane Type: APP/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated, (See System Limitation)

Deck Description: Minimum 750 psi MEARLCRETE® Cellular Concrete LLC Lightweight Insulating concrete having a wet cast density range of 48-63 pcf.

System Type E(3): Base sheet mechanically attached.

Deck: Minimum 22 ga., G-90, Vented, Grade 33, Type B Wide Rib, steel deck secured 6" o.c. to structural supports spaced a maximum of 6 ft. o.c. with 5/8" puddle welds and with #10 self-drilling screws at 6" o.c. at the side laps.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.2) or Drill-Tec™ Base Sheet Fastener E (1.2) at a fastener spacing of 7" o.c. at the 4" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional, required when using Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Minimum 750 psi MEARLCRETE® Cellular Concrete LLC Lightweight Insulating Concrete having a wet cast density range of 48-63 pcf.

System Type E(4): Base sheet mechanically attached.

Deck: Minimum 22 ga., G-90, Vented, Grade 33, Type B Wide Rib, steel deck secured 6" o.c. to structural supports spaced a maximum of 6 ft. o.c. with 5/8" puddle welds and with #10 self-drilling screws at 6" o.c. at the side laps.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.2) or Drill-Tec™ Base Sheet Fasteners E (1.2) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® # 75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7)

Membrane Type: SBS Heat-Weld™

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft^2/gal.

System Type E(5): Base sheet mechanically attached.

Deck: Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds and at each support at side laps.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

Fasteners: Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf. See General Limitation #7)

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf. See General Limitation #7)

Ply Sheet: (Optional) Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torched applied according to manufacturer's application instructions.

Membrane: One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: SBS/SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell Lightweight Insulating Concrete with min. compressive strength of 250 psi, ¼" thick slurry of Elastizell Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Elastizell lightweight insulating concrete was poured over the EPS Board to a thickness of 2" minimum.

System Type E(6): Base sheet mechanically attached.

Deck : Structural concrete 2500 psi or 22 gauge, Grade 33, vented steel deck, 1.5" Type B mechanically fastened to steel channel-framing joists. The Joists were spaced at 6' o.c. The steel deck was fastened with #5 Tek screws at 6" o.c. one fastener in each flute of the steel deck along the joist and at 6" o.c. along the side laps with #12-24 self-drilling screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Fire Barrier: (Optional) Fireboard min ¼" DensDeck® Roof Board or minimum ¼" Securock® Gypsum-Fiber Roof Board loose laid over a separator sheet consisting of one of the following products loose laid: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet.

Base Sheet: Install one ply of GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ #14 Fastener, Drill-Tec™ CD-10 for structural concrete or Drill-Tec™ #12 Fasteners and Drill-Tec™ 3" Steel Plate, Drill-Tec™ 3" Standard Steel Plate or Drill-Tec™ AccuTrac® Recessed Plate into the steel deck at 12" o.c. in the 4" side laps and two staggered rows in the field of the sheet spaced 12" o.c.

Ply Sheet: (Optional) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane:	One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.
Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-67.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell Lightweight Insulating Concrete with min. compressive strength of 250 psi, ¼" thick slurry of Elastizell Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Elastizell lightweight insulating concrete was poured over the EPS Board to a thickness of 2" minimum.

System Type E(7): Base sheet mechanically attached.

Deck : Structural concrete 2500 psi or Min. 22 gauge, Grade 33, vented steel deck, 1.5" Type B mechanically fastened to steel channel-framing joists. The Joists were spaced at 6' o.c. The steel deck was fastened with #5 Tek screws at 6" o.c. one fastener in each flute of the steel deck along the joist and at 6" o.c. along the side laps with #12-24 self-drilling screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Fire Barrier: (Optional)	Fireboard min ¼" DensDeck® Roof Board or minimum ¼" Securock® Gypsum-Fiber Roof Board loose laid over a separator sheet consisting of one of the following products loose laid: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet.
Base Sheet:	Install one ply of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, Ruberoid® Mop Granule (Inverted) or Ruberoid® Heat-Weld™ Smooth mechanically fastened as described below.
Fasteners:	Base Sheet fastened with Drill-Tec™ #14 Fasteners and Drill-Tec™ 2" Double Barbed steel plates fastened through Elastizell Lightweight Insulating Concrete deck in to the steel or structural concrete deck at 6" o.c. in the 4" side laps, followed by heat welding the laps.
Ply Sheet: (Optional)	Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torched applied according to manufacturer's application instructions.
Membrane:	One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq. Or One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing:	**Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7)

Membrane Type: SBS/SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Celcore Lightweight Insulating Concrete with min. compressive strength of 300 psi 1/4" thick slurry of Celcore Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb. was firmly pressed over the slurry. Celcore Lightweight Insulating Concrete was poured over the EPS Board to a thickness of 2" minimum.

System Type E(8): Base sheet mechanically attached.

Deck : Min. 2500 psi Structural concrete or 20 gauge vented steel deck, 1.5" type B, attached to steel channel-framing joists. The joists were spaced at 6'-6" o.c. The steel deck was fastened with 5/8" puddle welds at 6" o.c. one 5/8" weld in each flute of the steel deck along the joist and at 6" o.c. along the side laps with # 10 self-drilling screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Fire Barrier: (Optional) Fireboard min ¼" DensDeck® Roof Board or minimum ¼" Securock® Gypsum-Fiber Roof Board loose laid over a separator sheet consisting of one of the following products loose laid: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet.

Base Sheet: Install one ply of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, Ruberoid® Mop Granule (Inverted) or Ruberoid® Heat-Weld™ Smooth mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ #14 Fasteners and 2" Drill-Tec™ Double Barbed steel plates fastened through Celcore Lightweight Insulating Concrete deck in to the structural concrete or steel deck at 6" o.c. in the 4" side laps, followed by heat welding the 4" laps.

Ply Sheet: (Optional) Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torched applied according to manufacturer's application instructions.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate of 1to 2 gallons/sq.
Or
One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -45 psf. (See General Limitation #7)

Membrane Type: SBS/SBS Heat Weld

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell Lightweight Insulating Concrete with min. compressive strength of 250 psi. Minimum 2" thick slurry of Elastizell Lightweight Insulating Concrete was poured over a layer of 1.0 lb. EPS Board firmly pressed over a 0.25" think slurry applied to the steel deck.

System Type E(9): Base sheet mechanically attached.

Deck : 22 gauge vented steel deck, 1.5" type "B", Grade 33, mechanically fastened to supports. The supports were spaced at 6' o.c. The steel deck was fastened with #5 Tek screws at 6" o.c. (One in each flute of the steel deck) and at 6" o.c. along the side laps with #12-24 self-drilling screws.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

All General and System Limitations shall apply.

Base Sheet: Install one ply of Ruberoid® Mop Smooth mechanically fastened through LWC to steel deck as described below.

Fasteners: Fasten Base Sheet with Drill-Tec™ #14 Fastener and Drill-Tec™ 2" Barbed metal plate. Fasteners and Plates are placed through 4" wide side lap spaced at 6" o.c., lap is then heat welded.

Ply Sheet: (Optional) One ply Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torch applied according to manufacturer's application instructions.

Membrane: One or more plies Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Elastizell (II Special Mix) min 350 psi. mix, with Zell-Crete fibers and Zell-Erator curing sealer over structural concrete 2500 psi or Min. 22 ga., Grade 33, Type BV steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft. o.c. attached with 5/8" puddle welds and washers spaced max. 5 in. o.c. at every flute. Side laps shall be secured with #10 TEK screws fastened at a max. spacing of 15 in. o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.**

System Type F: Base sheet partially adhered.

All General and System Limitations shall apply.

Primed Deck: Deck is primed with Matrix 307 Premium Asphalt Primer.

Base Sheet: Install one ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry over deck.

Ply Sheet: (Optional) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -112.5 psf. (See General Limitation #9)

LIGHTWEIGHT CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gauge attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lb. f., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lb. f. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE